

BRANDON S. HENSLEY

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EDUCATION

Princeton University

Ph.D., Astrophysical Sciences

- Thesis: “On the Nature of Interstellar Grains”

M.A., Astrophysical Sciences

California Institute of Technology

B.S., Physics with Honors

November 2015

June 2010

PROFESSIONAL EXPERIENCE

Jet Propulsion Laboratory

JPL Postdoctoral Fellow

September 2015 - Present

AWARDS AND HONORS

- Chambliss Astronomy Achievement Student Award, 2014
- NSF Graduate Research Fellow, 2010 - 2013
- George W. and Bernice E. Green Prize for undergraduate research, 2010
- Caltech Perrell Speaking Competition– 2nd place, 2010
- Caltech SURF Fellow 2007, 2008, 2009
- ARCS Foundation Scholar, 2007 - 2010
- Robert C. Byrd Honors Scholar, 2006 - 2010

PUBLICATIONS

Refereed Articles as First or Second Author

10. **Hensley, B.** and B. T. Draine. “Thermodynamics and Charging of Interstellar Iron Nanoparticles.” Accepted to ApJ.
9. Draine, B. T. and **B. Hensley**. “Quantum Suppression of Alignment in Ultrasmall Grains: Microwave Emission from Spinning Dust will be Negligibly Polarized.” 2016, ApJ, 831, 59
8. **Hensley, B.**, B. T. Draine, and A. Meisner. “A Case Against Spinning PAHs as the Source of the Anomalous Microwave Emission.” 2016, ApJ, 827, 1
7. Ferraro, S. and **B. Hensley**. “Background Subtraction Uncertainty from Submillimetre to Millimetre Wavelengths.” 2015, MNRAS, 451, 1606
6. **Hensley, B.**, E. J. Murphy, and J. Staguhn. “Characterizing Extragalactic Anomalous Microwave Emission in NGC 6946 with CARMA.” 2015, MNRAS, 449, 809

5. **Hensley, B.**, J. P. Ostriker, and L. Ciotti. “Grain Physics and Infrared Dust Emission in Active Galactic Nucleus Environments.” 2014, ApJ, 789, 78
4. **Hensley, B.**, V. Pavlidou, and J. M. Siegal-Gaskins. “Novel Techniques for Decomposing Diffuse Backgrounds.” 2013, MNRAS, 433, 591
3. Draine, B. T. and **B. Hensley** “Magnetic Nanoparticles in the Interstellar Medium: Emission Spectrum and Polarization.” 2013, ApJ, 765, 159
2. Draine, B. T. and **B. Hensley**. “The Submillimeter and Millimeter Excess of the Small Magellanic Cloud: Magnetic Dipole Emission from Magnetic Nanoparticles?” 2012, ApJ, 757, 103
1. **Hensley, B.**, J. M. Siegal-Gaskins, and V. Pavlidou. “The Detectability of Dark Matter Annihilation with *Fermi* Using the Anisotropy Energy Spectrum of the Gamma-ray Background.” 2010, ApJ, 723, 277

Conference Proceedings

- Mahabal, A., S. G. Djorgovski, R. Williams, A. Drake, C. Donalek, M. Graham, B. Moghaddam, M. Turmon, J. Jewell, A. Khosla, **B. Hensley**. “Towards Real-time Classification of Astronomical Transients.” 2008, AIP Conference Proceedings, Volume 1082, pp. 287-293

SELECTED TALKS

- “Anomalous Microwave Emission: Polarized CMB Foreground?” U.S. Radio/Millimeter/Submillimeter Science Futures II. August 3, 2016.
- “The Physics of Polarized Dust Emission.” European Week of Astronomy and Space Science 2016. July 4, 2016.
- “Modeling Dust Polarization from the UV to the Microwave.” CITA Theory Seminar. February 18, 2016.
- “Dust Polarization in the Microwave: Challenges on the Quest for B-Modes.” INPA Seminar, Lawrence Berkeley National Laboratory. January 29, 2016.
- “The Physics of Polarized Dust Emission.” B-Mode from Space Workshop, Kavli IPMU. December 11, 2015.
- “Rethinking the Origin of the Anomalous Microwave Emission: A Case Against Spinning PAHs.” JPL Astrophysics Colloquium. June 29, 2015.
- “A Unified Model of Polarized Emission and Extinction from Interstellar Dust.” University of Pennsylvania Journal Club. February 20, 2015.
- “Modeling Dust Emission Mechanisms in the Microwave.” Measuring B-Mode Polarization from Greenland, Niels Bohr Institute. February 2, 2015.
- “Long Wavelength Emission and Polarization from Interstellar Dust.” Harvard-Smithsonian Center for Astrophysics. November 17, 2014.

TEACHING

- Princeton Prison Teaching Initiative Instructor, Fall 2011 - Spring 2015

- Assistant in Instruction for Professor Gáspár Bakos, “Planets in the Universe,” Princeton University, Fall 2013
- Senior Thesis Writing Group Leader, AY 2013 - 2014

VOLUNTEERING AND OUTREACH

- Princeton Public Observing, Fall 2010 - Spring 2015
- Evergreen Forum Instructor, March 2012
- Caltech Core Curriculum Task Force, June 2009 - June 2010
- Caltech Y RISE Tutoring Program, February 2007 - June 2010